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**Anatomy Test**

Cobra Invitational

Birmingham Covington School

January 24, 2015

Team Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Team Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coaches Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Participant \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Participant \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Directions:

1. Do not open the test booklet until directed to do so.
2. This test is composed of 12 stations. Some stations contain a model or picture. Some Lab Stations are empty tables to work on written test questions.
3. Lab Stations – You will be given 4 minutes at each lab station to look at an object and answer the associated questions.
4. You may use the following items:
   1. Pen or pencil
   2. Calculator (non-programmable)
   3. 8 ½ X 11 note page
5. When Time is called, you must set down your pencil immediately.
6. You will turn in your test and answer sheet.
7. Tie-Breaker questions have been previously determined.

**Station 1 – Model of Heart**

1. **1. Name structure “A” on the model. Superior Vena Cava**
2. **Where is the blood going to or coming from? To heart from head and upper limbs**
3. **1. Name the structure “B” on the model. Aorta**

**2. Where is the blood going to or coming from? From heart to upper and lower body**

**C. 1. Name the structure “C” on the model. Pulmonary Trunk**

**2. Where is the blood going to or coming from? From heart to lungs.**

**Station 2 – Multiple Choice**

1. Which of the following is the correct sequence, going from simplest to most complex, in the levels of structural organization of the human body:

A)  chemical level, tissue level, cellular level, organ system level, organ level, organismal level

B)  cellular level, chemical level, tissue level, organ system level, organismal level, organ level

**C)**  chemical level, cellular level, tissue level, organ level, organ system level, organismal level

D)  cellular level, chemical level, tissue level, organ level, organ system level, organismal level

E)  cellular level, tissue level, chemical level, organ level, organ system level, organismal level

2. Which are accessory structures of the integument?

A) sweat glands B) sebaceous glands

C) fingernails **D)** all of the above

3. Which are accessory structures of the integument?

A) sweat glands B) sebaceous glands

C) fingernails **D)** all of the above

4. Which of the following systems is matched most accurately to the life function it provides:

A)  respiratory system - digestion

B)  nervous system - excretion

C)  muscular system - maintaining boundaries

D)  integumentary system - movement

**E)**  nervous system - responsiveness

5. Which skin property is generally not of clinical importance?

**A)** color B) temperature

C) texture D) distribution of melanin

6. Which of these is NOT a survival need:

A)  oxygen  B)  water

**C)**  reproduction   D)  body temperature

E)  nutrients

7. What is responsible for blood clotting?

A) Plasma **B)** Platelets C) Corpuscules D) Protein

8.  Which of the following is the correct order of elements in a control system:

A)  receptor, stimulus, afferent pathway, control center, efferent pathway, effector, response

B)  stimulus, receptor, efferent pathway, control center, afferent pathway, effector, response

C)  receptor, stimulus, efferent pathway, control center, afferent pathway, effector, response

**D)**  stimulus, receptor, afferent pathway, control center, efferent pathway, effector, response

E)  effector, stimulus, efferent pathway, control center, afferent pathway, receptor, response

9. What is the correct name for red blood cells?

**A)** Erythrocytes B) Leucocytes

C) Phagocytes D) Megabytes

10. Which of the following activities does not represent an anatomical study:

A)  viewing muscle tissue through a microscope

**B)**  studying how the nerves conduct electrical impulses

C)  observing the parts of a reproducing cell

D)  examining the surface of a bone

E)  making a section through the heart to observe its interior

**Station 3 – Muscle**

1. **1. Name structure “A” on the model.**
2. **Name the insertion point.**
3. **1. Name the structure “B” on the model.**

**2. Is this structure an antagonist or agonist?**

**C. 1. Name the structure “C” on the model.**

**2. What is the primary function of this structure?**

**Station 4 – Multiple Choice Questions**

1. The stomach, liver, intestines, bladder, rectum, and reproductive organs are housed in the:

**A)**  abdomino-pelvic cavity   B)  dorsal cavity

C)  spinal cavity   D)  cranial cavity

E)  thoracic cavity

2. A function of white blood cells is to

A) transport oxygen to body cells

B) produce hormones that regulate cell communication

C) carry glucose to body cells

**D)** protect the body against pathogens

3. Which of the following is NOT a necessary life function?

**A)**  nutrients   B)  maintaining boundaries

C)  movement   D)  responsiveness

E)  metabolism

4. Which action below is affected by an antihistamine?

**A)** blood vessel dilation

B) phagocytosis of antigens

C) MHC presentation by macrophages

D) the secondary immune response

E) clonal selection by antigens

5. The ovary is part of which of the following two systems:

A)  digestive and respiratory systems

**B)**  reproductive and endocrine systems

C)  digestive and endocrine systems

D)  reproductive and respiratory systems

E)  endocrine and respiratory systems

6. Another name for the bicuspid valve is the

**A)** Mitral B ) Pitral C) Vitral D) Bitral

7. When an immune response mistakenly targets normal body cells and tissues, the result is:

A) Depression of the inflammatory response

B) Immune system failure

**C)** An autoimmune disorder

D) The development of an allergy.

8. Arrector pili muscles are

A) skeletal muscles. B) involuntary smooth muscles.

**C)** follicle glands D) voluntary smooth muscles.

9. How much % of water is in blood?

**A)** 60 B) 70 C) 80 D) 90

10. Elimination of metabolic wastes from the body is the function of the:

**A)**  digestive and urinary systems

B)  digestive system

C)  urinary system

D)  respiratory system

E)  digestive and respiratory systems

**Station 5 – Brain**

1. **1. Name structure “A” on the model. cerebrum**
2. **List one thing it controls. Lots of choices here**
3. **1. Name the structure “B” on the model. cerebellum**

**2. What is this structure attached to? Medulla and brain stem**

**C. 1. Name the structure “C” on the model. Pituitary gland**

**2. What type of substance does this structure secrete? hormones**

**Station 6 – Multiple Choice Questions**

1. Inflammatory responses may include which of the following?

A) clotting proteins migrating away from the site of infection

B) increased activity of phagocytes in an inflamed area

C) reduced permeability of blood vessels to conserve plasma

D) release of substances to decrease the blood supply to an inflamed

2. Which ventral cavity subdivision has no bony protection:

A)  spinal   B)  pelvic   C)  abdominal  D)  cranial   E)  thoracic

3. Wall down the middle of the heart is called the

A) Hexum B) Pentum C) Octum D) Septum

4. Antibody molecules and receptor molecules are similar in that they both

A) control transport through the cell membrane

B) have a specific shape related to their specific function

C) remove wastes from the body

D) speed up chemical reactions in cells

5. Heart muscle is

A) Voluntary muscle B) Involuntary muscle

C) Carotid muscle D) Cardiac muscle

6. The system that controls and coordinates the body through hormones is the:

A)  digestive system   B)  nervous system

C)  endocrine system   D)  skeletal system

E)  integumentary system

7. Which is not a pulse in the body?

A) Carotid B) Radial C) Femoral D) Temprial

8. Aaron fell while ice skating and broke a bone in his carpal region. Where is this region?

A)  wrist   B)  shoulder   C)  lower leg   D)  hip   E)  knee

9. An individual who has had chicken pox rarely gets the disease again. This situation is an example of

A. biological control B. negative feedback

C. active immunity D. passive immunity

10. Which cells and which signaling molecules are responsible for initiating an inflammatory response?

A) phagocytes: lysozymes B) phagocytes: chemokines

C) dendritic cells: interferons D) mast cells: histamines

E) lymphocytes: interferons

**Station 7 – Muscle**

1. **1. What type of muscle fiber is this? Skeletal**
2. **Where is it found? Muscles connected to bones**
3. **1. What type of muscle fiber is this? smooth**

**2. Where is it found? Organs, digestive tract, blood vessels**

**C. 1. What type of muscle fiber is this? Cardiac**

**2. Where is it found? Heart**

**Station 8 – Matching Questions**

1. The system that takes in oxygen and releases carbon dioxide to the exterior is the:

A)  muscular system   B)  respiratory system

C)  urinary system  D)  cardiovascular system

E)  reproductive system

2. Which statement concerning the integument is incorrect?

A) It is the largest organ of the body.

B) Its appearance and condition are clinically important.

C) It protects the body and helps to regulate its function.

D) It is of uniform thickness.

3. Which of the following orientation terms have opposite meanings (in humans):

A)  medial and anterior   B)  superficial and proximal

C)  posterior and intermediate   D)  distal and proximal

E)  medial and distal

4. The epidermal layer that is found only in the palms of the hands and the soles of the feet is

A) the stratum granulosum. C) the stratum corneum.

B) the stratum spinosum. D) the stratum lucidum.

5. Which of these regions are associated with the parts of the arm:

A)  femoral, popliteal, patellar   B)  brachial, antecubital, carpal

C)  nasal, oral, occipital   D)  pelvic, pubic, inguinal

E)  acromial, sacral, gluteal

6. Which is not part of a hair?

A) shaft C) follicle

B) root D) bulb

7. Which of the following is not part of the circulatory system?.

A) Heart B) Lungs

C) Blood D) Blood vessels

8. Sebaceous glands secrete

A) oil. C) wax.

B) sweat. D) melanin.

9. Both the eye and the respiratory tract are protected against infections by which of the following?

A) the mucous membranes that cover their surface

B) the secretion of complement proteins

C) the release of slightly acidic secretions

D) the secretion of lysozyme onto their surface

E) interferons produced by immune cells

10. Vaccinations help prepare the body to fight invasions of a specific pathogen by

A) inhibiting antigen production

B) stimulating antibody production

C) inhibiting white blood cell production

D) stimulating red blood cell production

**Station 9 – Eye**

1. **1. Name structure “A” on the model. Retina**

**2. What perceives Color? Cones**

**3. What perceives grey tones? Rods**

1. **1. Name the structure “B” on the model. Lens**

**2. What is the clinical term for the disease when this structure becomes cloudy? Cataracts.**

**C. 1. Name the fluid that fills structure “C”. Aqueous Humor**

**2. Name the disease caused by an increased pressure of the fluid. Glaucoma**

**Station 10 – Matching Questions**

1. The lymphatic system:

A)  synthesizes vitamin D

B)  responds to internal and external changes by activating appropriate muscles and glands

C)  secretes hormones that regulate processes such as growth, reproduction, and nutrient use (metabolism) by body cells

D)  picks up fluid leaked from blood vessels and returns it to the blood

E)  produces heat

2. Which statement concerning the integument is incorrect?

A) It is the largest organ of the body.

B) Its appearance and condition are clinically important.

C) It protects the body and helps to regulate its function.

D) It is of uniform thickness.

3. Which condition would most likely result in a human body being unable to defend itself against pathogens and cancerous cells?

A) a genetic tendency toward a disorder such as diabetes

B) a parasitic infestation of ringworm on the body

C) the production of antibodies in response to an infection in the body

D) the presence in the body of the virus that causes AIDS

4. What is carried mainly in plasma?

A) White blood cells B) Glucose

C) Carbon Dioxide D) Oxygen

5. What is an average Heart rate of a fit 18 year old at rest?

A) 40 B) 65 C) 85 D) 120

6. How many red blood cells are there in a drop of blood

A) 15 million B) 50,000 C) ½ Million D) 5 million

7. What gives red blood cells their color?

A) Muscle B) Oxygen C) Hemoglobin D) Plasma

8. Which activity would stimulate the human immune system to provide protection against an invasion by a microbe?

A) receiving antibiotic injections after surgery

B) choosing a well-balanced diet and following it throughout life

C) being vaccinated against chicken pox

D) receiving hormones contained in mother’s milk while nursing

9. Which has no nucleus?

A) White blood cells B) Red blood cells

C) Heart cells D) Lung cells

10. In the circulatory system, which is correct?

A) Right ventricle, Semi-lunar valve, Pulmonary artery, Lungs

B) Left ventricle, Semi-lunar valve, Pulmonary artery, Lungs

C) Right ventricle, Semi-lunar valve, Pulmonary Vein, Lungs

D) Left ventricle, Semi-lunar valve, Pulmonary Vein, Lungs

**Station 11 – Heart**

1. **1. Name structure “A” on the model. Tricuspid Valvue**

**2. What two chambers does it separate? R. Atrium & R. Ventrical**

1. **1. Name the structure “B” on the model. Bicuspid (Mitral) Valve**

**2. What causes the “thump” sound of a heart beat? Valves Closing**

**C. 1. Name the diagnostic tool that was responsible for the image “C”. EKG or ECG**

**2. Select the image that shows a normal heart beat? C**

**Station 12 – Matching Questions**

Match the technical term on the left with its description on the right

1. Frostbite F A) mole

2. Acne D B) benign epithelial neoplasm

3. nevus A C) baldness

4. carbuncle K D) bacterial infection

5. furuncle I E) itching

6. comedo G F) frozen skin

7. albinism H G) plug of sebum in hair follicle

8. cold sore J H) no melanin synthesis

9. alopecia C I) boil

10. Pruritis E J) herpes simplex virus

11. papilloma B K) inflammatory sebaceous glands

12. Ceruminous L L) secretes earwax